AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1.-3. (Cancelled)

4. (Currently Amended) A microchip, comprising:

a first flow pass in which a specimen flows;

a second flow pass in which a reagent flows;

a confluence area in which the specimen and the reagent flowing from the first and the second flow passes join and make a liquid mixture, the confluence area being located downstream from the first and the second flow passes;

a third flow pass in which the liquid mixture flows and light from a reaction of the liquid mixture is generated, the third flow pass being connected to the confluence area and being located downstream from the confluence area and on a different level from the first and the second flow passes; and

a discharge port which is located downstream from the third flow pass and is connected to the third flow pass;

wherein the light generated in the third flow pass goes through the third flow pass in an extension direction of the third flow pass and exits to a light detection area~~a flow pass for containing a reaction, said flow pass having a confluence area and a ventilator port; and~~

~~a detection target region, located within at least a portion of said flow pass, having an end located proximate said confluence area and a second end located proximate said ventilator port, wherein light from said reaction is generated, said light passing through said detection target region to a light detection area;~~

~~wherein said detection target region is larger than said light detection area~~.

5. (Original) A microchip in accordance with Claim 4, wherein said light is generated in response to excitation light from a light source.

6. (Currently Amended) A microchip, comprising:

a first flow pass in which a specimen flows;

a second flow pass in which a reagent flows;

a confluence area in which the specimen and the reagent flowing from the first and the second flow passes join and make a liquid mixture, the confluence area being located downstream from the first and the second flow passes;

a third flow pass in which the liquid mixture flows and light from a reaction of the liquid mixture is generated, the third flow pass being connected to the confluence area and being located downstream from the confluence area; and

a discharge port which is located downstream from the third flow pass and is connected to the third flow pass;

wherein the light generated in the third flow pass goes through the third flow pass in an extension direction of the third flow pass and exits to a light detection area ~~a flow pass for containing a reaction, said flow pass having a confluence area and a ventilator port;~~

~~a detection target region wherein light from said reaction is to be generated, said detection target region being located within at least a portion of said flow pass, having an end located proximate said confluence area and a second end located proximate said ventilator port; and~~

~~an optical path for detecting said reaction, said optical path oriented in an extension direction of said flow pass and passing from said confluence area to said ventilator port~~.

7. (Original) A microchip in accordance with Claim 6, wherein said light is generated in response to excitation light from a light source.

8. (Currently Amended) A microchip in accordance with Claim 6, wherein a length of said third flow pass ~~detection target region~~ is greater than a depth and a width of said third flow pass.

9. (Currently Amended) A microchip in accordance with Claim 6 further comprising:

a plurality of supply inlets for supplying a plurality of fluids, the plurality of supply inlets being respectively connected to the first and the second flow passes~~; and~~

~~a plurality of branch flow passes, respectively connecting said plurality of supply units to said flow pass~~.

10. (Currently Amended) A microchip in accordance with Claim 9 further comprising a plurality of micro pumps respectively disposed in said first and second ~~plurality of branch~~ flow passes for pumping said fluids into said third flow pass.

11. (Currently Amended) A microchip in accordance with Claim 9 further comprising an area in said third flow pass for anchoring a ~~solid~~ specimen.

12. (Currently Amended) A microchip in accordance with Claim 6 further comprising a reagent fixing unit located in said third flow pass.

13. (Currently Amended) A microchip in accordance with Claim 6~~, wherein said optical path comprises~~ further comprising a light guide unit, disposed adjacent to an end of said third flow pass ~~detection target region~~, wherein the light exiting from the third flow pass goes into ~~for conducting said light between said detection target region and a~~ the light detection area through the light guide unit.

14. (Original) A microchip in accordance with Claim 13, wherein said light guide unit comprises an optical fiber.

15. (Currently Amended) A microchip in accordance with Claim 13~~, wherein said optical path~~ further comprising ~~comprises~~ a second light guide unit connected to a second end of said third flow pass ~~detection target region~~.

16. (Original) A microchip in accordance with Claim 13, wherein said light guide unit comprises an optical waveguide.

17. (Currently Amended) A microchip, comprising:

a first flow pass in which a specimen flows;

a second flow pass in which a reagent flows;

a confluence area in which the specimen and the reagent flowing from the first and the second flow passes join and make a liquid mixture, the confluence area being located downstream from the first and the second flow passes;

a third flow pass in which the liquid mixture flows and light from a reaction of the liquid mixture is generated, the third flow pass being connected to the confluence area and being located downstream from the confluence area;

a reflection surface which reflects the light from the reaction, the reflection surface being formed on at least a portion of a surface of the third flow pass; and

a discharge port which is located downstream from the third flow pass and is connected to the third flow pass;

wherein the light generated in the third flow pass goes through the third flow pass in an extension direction of the third flow pas and exits to a light detection area ~~a flow pass for containing a reaction, said flow pass having a confluence area and a ventilator port;~~

~~a detection target region wherein light from said reaction is to be generated, said detection target region being located within at least a portion of said flow pass, having an end located proximate said confluence area, and a second end located proximate said ventilator port;~~

~~a reflective surface formed on at least a portion of a surface of said detection target region; and~~

~~an optical path for detecting said reaction, said optical path passing from said confluence area to said ventilator port;~~

~~wherein said reflective surface is adapted to reflect said light so as to increase a length of said optical path beyond a length of said detection target region~~.

18. (Original) A microchip in accordance with Claim 17, wherein said light is generated in response to excitation light from a light source.

19. (Cancelled)

20. (Currently Amended) A microchip in accordance with Claim 17, wherein said reflective surface is formed on a top surface and a bottom surface of ~~said detection target region of~~ said third flow pass.

21. (Original) A microchip in accordance with Claim 17, wherein said reflective surface comprises a metallic film.

22. (Currently Amended) A microchip in accordance with Claim 17, further comprising a lens disposed adjacent to an end of ~~said detection target region of~~ said third flow pass.

23. (Currently Amended) A microchip in accordance with Claim 22, wherein said lens is adapted to condense said light as said light exits ~~said detection target region of~~ said third flow pass and to direct said light to ~~a~~ the light detection area.

24. (Currently Amended) A microchip in accordance with Claim 17 further comprising:

a plurality of supply inlets for supplying a plurality of fluids, the plurality of supply inlets being respectively connected to the first and the second flow passes~~; and~~

~~a plurality of branch flow passes, respectively connecting said plurality of supply units to said flow pass~~.

25. (Currently Amended) A microchip in accordance with Claim 24 further comprising a plurality of micro pumps respectively disposed in said first and second ~~plurality of branch~~ flow passes for pumping said fluids into said third flow pass.

26. (Currently Amended) A microchip in accordance with Claim 24 further comprising an area in said third flow pass for anchoring a ~~solid~~ specimen.

27. (Currently Amended) A microchip in accordance with Claim 17 further comprising a reagent fixing unit located in said third flow pass.

28. (Withdrawn) A microchip, comprising:

a substrate;

a flow pass for containing a reaction, said flow pass formed on a first side of said substrate;

a detection target region wherein light from said reaction is to be generated, said detection target region being located within at least a portion of said flow pass;

a condensing lens unit for condensing said light, said condensing lens unit formed on a second side of said substrate.

29. (Withdrawn) A microchip in accordance with Claim 28, wherein said light is generated in response to excitation light from a light source.

30. (Withdrawn) A microchip in accordance with Claim 28, wherein said condensing lens unit comprises a convex lens.

31. (Withdrawn) A microchip in accordance with Claim 28, wherein said condensing lens unit possesses optical power in a direction perpendicular to an extension direction of said flow pass.

32. (Withdrawn) A microchip in accordance with Claim 28, wherein said condensing lens unit has a curvature in an extension direction of said flow pass.

33. (Withdrawn) A microchip in accordance with Claim 28, wherein said condensing lens unit has a curvature in a cross-flow direction of said flow pass.

34. (Withdrawn) A microchip in accordance with Claim 28 further comprising:

a plurality of supply inlets for supplying a plurality of fluids; and

a plurality of branch flow passes, respectively connecting said plurality of supply units to said flow pass.

35. (Withdrawn) A microchip in accordance with Claim 34 further comprising a plurality of micro pumps respectively disposed in said plurality of branch flow passes for pumping said fluids into said flow pass.

36. (Withdrawn) A microchip in accordance with Claim 34 further comprising an area in said flow pass for anchoring a solid specimen.

37. (Withdrawn) A microchip in accordance with Claim 34 further comprising a reagent fixing unit located in said flow pass.

38. (Withdrawn) A method of manufacturing a microchip, comprising the steps of:

providing a substrate;

forming a core area of an optical waveguide on said substrate;

placing a film on said core area to form a clad area;

patterning a portion of said core area and said clad area to form an portion of a flow pass therein; and

placing a cover over said substrate.

39. (Withdrawn) A method in accordance with Claim 38, wherein said step of forming said core area comprises a SiO2 patterning process.

40. (Withdrawn) A method in accordance with Claim 38, wherein step of patterning comprises an anisotropic dry etching process.

41. (Withdrawn) A method of manufacturing a microchip, comprising the steps of:

providing a substrate;

forming a reflective film on said substrate;

forming a protective film on said reflective film on said substrate;

providing a cover;

forming a reflective film on said cover;

forming a protective film on said reflective film on said cover; and

placing said cover over said substrate.

42. (Withdrawn) A method in accordance with Claim 41, wherein said reflective film comprises a metallic material.

43. (Withdrawn) A method of manufacturing a microchip, comprising the steps of:

providing a substrate;

forming a condensing lens on one side of said substrate;

forming a flow pass on a second side of said substrate; and

placing a cover over said substrate proximate said flow pass.

44. (Withdrawn) A method in accordance with Claim 43, wherein said condensing lens has a curvature in an extension direction of said flow pass.

45. (Withdrawn) A method in accordance with Claim 43, wherein said condensing lens has a curvature in a direction perpendicular to an extension of said flow pass.

46.-49. (Cancelled)

50. (Previously Presented) A microchip in accordance with Claim 17, wherein light from a light source enters the microchip through a top surface of said microchip and exits from the microchip through a lens disposed on the top surface of the microchip.

51. (Currently Amended) A microchip in accordance with Claim 50, wherein said third flow pass has top and bottom flat surfaces ~~in said detection target region~~, said reflective surface being formed on said top and bottom flat surfaces.